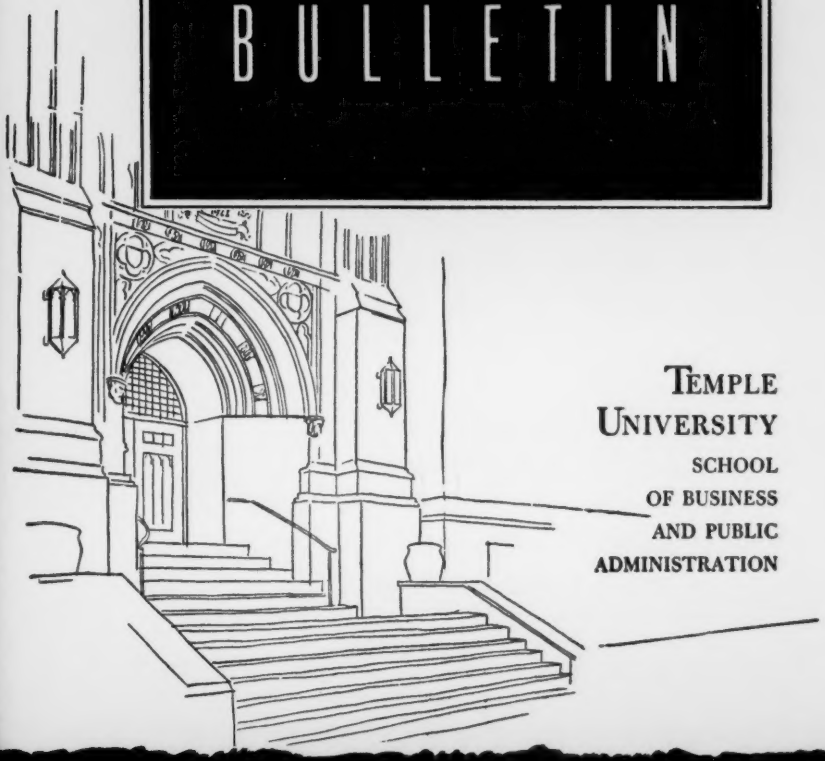
VOL. 14 NO. 1

BULLETIN



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SEPTEMBER, 1961

ECONOMICS AND BUSINESS BULLETIN

OF THE

SCHOOL OF BUSINESS AND PUBLIC ADMINISTRATION

Published by the
BUREAU OF ECONOMIC AND BUSINESS RESEARCH
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Committee for Economic and Business Research

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Economic Theory as a Guidepost For Market Planning

by HENRY ANDERSON*

Engineers would never dare to send a missile into space without giving due consideration to such basic knowledge about nature as is embodied in the law of gravity. But market analysts often do something analogous to that, proceeding by feel and by faith rather than on the basis of widely accepted principles. The following paper seeks to show that reference to theory can be more useful to market planners than is commonly thought.

ECONOMIC theory pinpoints the essential features of economic reality and thus would seem to constitute an important guidepost for sales estimation. Nevertheless, the knowledge embodied in established doctrine is often ignored by practitioners, particularly those concerned with foreign markets.

This indifference to theoretical principles on the part of forecasters is not entirely unjustified, but it probably goes too far. The present article examines the role that economic analysis can play in market evaluation. Conventional theoretical notions are presented, and their methodological significance is noted. Special attention is given to the problem of forecasting export sales.

FORECASTING SALES UNDER ATOMISM

The theory pertaining to a firm facing numerous competitors is portrayed by Figure 1. D_tD represents the industry demand schedule in the country under analysis, S_nS_n the national supply schedule, and S_iS_i the import supply schedule. The import demand schedule is traced out by D_iD. This line is obtained by subtracting S_nS_n from D_tD horizontally. In the circumstances depicted, the equilibrium price—the level toward which actual prices tend—is OP. Only at this price does import demand (OQ_d) equal import supply (OQ_s).

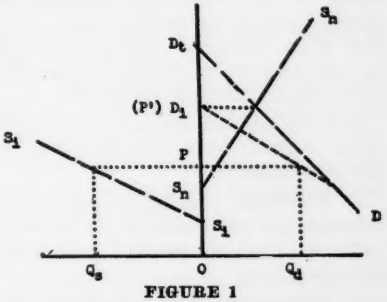

FIGURE 1

Company sales curves must be imagined anchored to and spread out along the horizontal line passing through P. In the case of an industry producing a standardized product, they will coincide with this line. They will diverge from the horizontal position to the extent to which the product at issue is differentiated. They will move up and down with shifts in market price, that is, in response to changes in demand and supply circumstances. In other words, atomistic enterprises may count on selling any desired output at the prevailing market price if the industry concerned is homogeneous, or at some price differential over the industry average if the product is differentiated. The profitability of selling in a given market is thus determined by existing demand and supply conditions.

In the light of these considerations, the essential forecasting task confronting small firms selling standardized items is the estimation of the latter's future prices. Producers of a differentiated product will have to predict not a single price for the industry but the price average for the various competing

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brands. Either type of forecast, it may be noted, is of value to many firms. Individual analysis and research would, therefore, be wasteful. The work involved in the preparation of forecasts should logically be shared by all members of an industry. That is, it should be undertaken by trade associations rather than individual companies.

How can market prices be predicted? Three methods have been suggested in this connection:[1]

1. Statistical analysis of past price behavior and projection of its essential patterns (trend and seasonal movement) into the future.

2. Estimating future costs and adding a typical mark-up based on past experience.

3. Estimating future demand and supply pressures and their impact on market prices.

The first method has the advantage of relative simplicity and objectivity. However, it also has significant weaknesses. Above all, it yields only benchmark estimates. Cyclical and random movements in prices are ignored. This is a serious handicap in short-run forecasting. Again, in using the technique for long-term estimation, one has no assurance that the computed trend is representative of the whole period at issue. If important changes occur in the underlying forces, trend analysis may become a very unreliable basis for price predictions.

The second method is less rigid than the first. It takes account of changes at least on the cost side of the market. However, alterations in demand conditions are ignored. This is a manifest weakness. Moreover, the technique imposes upon the analyst the task of forecasting costs. Thus, in a way, the original forecasting problem is merely transformed into another, which may or may not be easier.

The third approach involves careful consideration of production, inventory, and consumption developments and their incidence on the market price (or average industry price) of the article in question. Ideally, this procedure should be econometric rather than subjective—based on statistically determined demand and supply functions rather than on personal judgment. Theoretical knowledge would thus enter the analysis a second time by guiding the choice of appropriate key factors and functional forms.

In practice, however, one must usually resort to a less ambitious solution of the forecasting problem. A mathematical description of the price-forming forces on the demand side of the market is a feasible statistical undertaking. Under favorable conditions, the analyst may even be able to quantify the relations governing local supply possibilities in the market under analysis. But such a national supply function by itself can only be useful in estimating the prices of products whose importation is unprofitable in the neighborhood of the historically prevailing price range (domestic commodities) or products whose supply from foreign sources is very inelastic (rare types of international commodities).[2]

In the case of all other articles, industry price depends not only on domestic demand (D_tD, Figure 1) and the prevailing local supply possibilities (S_nS_n) but also on the society's opportunities to import. The import supply schedule (S_tS_t), thus, also comes into question. But the latter reflects conditions in numerous countries. It is affected by regulatory, technological and general economic changes in every nation trading the product at issue. It will, thus, tend to be highly

[1]Leo Barnes, **Handbook for Business Forecasting**, pp. 16-17. New York: Prentice-Hall, Inc., 1948.

[2]The first situation can be illustrated graphically by making Line S_1S_1 in Figure 1 coincide with the vertical axis. The prevailing price will then be P', being a function of national demand and supply alone. The condition of the second product group can be portrayed by rotating Line S_1S_1 into a near-vertical position. Upward and downward shifts in this schedule will then have much less influence on price formation and thus atomistic sales opportunities than before. Importation may therefore be treated as a constant for forecasting purposes.

unstable—much less stable than the domestic supply schedule (S_nS_n), which depends only on cost conditions in the importing country under analysis. In these circumstances, the establishment of an analytically satisfactory import supply function must be considered impossible, and price forecasts pertaining to international goods must heavily rest on judgment and relatively crude projections of past experience. A sophisticated type of econometric analysis cannot be useful.

FORECASTING SALES UNDER OLIGOPOLY

When sellers are few, none can act anonymously, and none can vary output or price materially without visibly affecting the sales opportunities of his rivals and thus inviting reprisals. This situation exercises a restraining influence on the policies of oligopolistic enterprises, particularly those selling a standardized item. The theoretical model presented in Figure 1 is therefore not an adequate guidepost for sales forecasting under oligopolistic circumstances. Only the demand schedule (D_tD) still has meaning. For the rest, the forecaster must be guided by his knowledge of firm behavior in the industry and by the following two principles:

1. Price formation under (stable) oligopoly is essentially a matter of (open or tacit) agreement, particularly in the case of standardized products. It may, on occasion, be a matter of cutthroat competition. But such breakdowns of normal competitive relations are not likely to last long.

2. An oligopolist (unlike his atomistic counterpart) cannot count on unlimited sales possibilities, only on a certain market share. The latter is determined by relative supply pressure in the case of standardized products and by limited price and nonprice competition in the case of differentiated articles.

The above considerations suggest the proper approach to sales estimation under oligopolistic market conditions. An oligopolist's sales forecast will normally consist of three phases:

1. Estimation of industry (or industry average) price.

2. Estimation of industry demand at the expected price level.

3. Derivation of the company sales forecast from the relevant industry demand estimate.

More detailed comment on these basic steps in oligopolistic forecasting procedure is in order.

Estimating Industry Price

As already noted, the market price of an established item produced by few companies is the result of open or tacit agreement. Its estimation must reflect that fact.

Prices of homogeneous oligopolists may be presumed to be highly inflexible, especially in the downward direction. Only a major change in market conditions is likely to produce a price revision. Under differentiated oligopoly, there is no single price but there exists a basic price level which, like its single counterpart in a homogeneous industry, may be held to flow from mutual tolerance rather than from policies pursued without heed to the probable reaction of rivals.

In view of what has been said, a sophisticated form of persistence forecasting appears to be the best available solution to the problem of estimating prices under oligopoly. The previous year's price level may be considered a realistic bench mark of what the future is likely to bring. This tentative price estimate is then modified in the light of current market developments. Judgment and intuition must inevitably play important roles in this connection, particularly so where international goods are concerned.

The domestic market analyst, in many cases, deals with products that do not enter international trade and can therefore often ignore foreign demand and supply conditions in his price estimates.

The export-sales forecaster lacks this advantage. He is exclusively concerned with international goods and must consequently always give attention to foreign developments as well as domestic ones.

Estimating Industry Demand

A sophisticated solution of this problem involves the use of a market demand function; and where sufficient data are available, such a function should be computed. It constitutes the best obtainable description of the relations governing demand. Economic theory and intimate acquaintance with the national market concerned provide appropriate guidance for the selection of serviceable key factors and an acceptable mathematical form. The function decided on might then appear as follows:

$$\log D/N = \log a + b_1 \log I'/P + b_2 \log p/P$$

D, in this logarithmic equation, represents aggregate national demand for the product at issue. N stands for population size, I' for per capita income, p for the price of the product, and P for the general price index. If suitable estimates of the various key factors can be made or obtained from competent authorities and if certain conditions are fulfilled, use of this formula will produce a reasonably reliable forecast of market demand.

In estimating industry demand even more than in estimating industry price, foreign market analysts face special problems. Unlike their domestic counterparts, they must deal with a number of national markets, not just one, and each economy under analysis may possess distinctive aspects which affect the construction and use of demand functions.

Thus, the quality of conventional key variables may vary from one country to another. National income, for instance, may have greater estimating power in backward societies than in developed ones. In the former, instalment buying is rare, and few consumers are able to fall back on accumulated funds to finance their purchases.

Again, the relationship between a given conventional indicator and a specific national market may be subject to international variations. The choice of different mathematical functions for different nations might thus be indicated if a sophisticated solution of the forecasting problem is sought.

Finally, the durability of a given estimating expression may vary from nation to nation, be low for rapidly developing societies and high for relatively stagnant ones. Forecasting formulas may, thus, have to be overhauled more frequently for some national markets than for others.

In general, measuring and estimating industry demand in foreign countries, thus, differs from the analogous domestic operations by requiring familiarity with different economic environments. The export sales forecaster must tailor his estimating expressions to several distinct politico-economic organisms. The basic sales influences (population size, aggregate income, real price, etc.) are, of course, identified by conventional demand theory and may be assumed to operate in all economies; but, depending on local circumstances, one or more of these general demand determinants may be quiescent (subject to no important variations). Also, their influence may be swamped by that of a few dominant key factors, or their status cannot be ascertained because the relevant statistics are unobtainable.

Methodologically, this means that some (but not always the same) theoretically relevant factors may be ignored in practice and others may have to be replaced by serviceable "proxy" variables. The situation will differ from country to country. Nevertheless conventional theory is useful as a basic guidepost. It constitutes the logical starting-point of the demand analysis in each particular nation.

Estimating Company Demand

It remains for the analyst to estimate his firm's future market share so that

the industry demand forecast can be converted into a company sales estimate.

Projection of Past Patterns. The simplest methodical way of predicting a company's future market share is projection of its average performance in the past or possibly projection of the most recent share datum available. There is some theoretical justification for such a procedure in the case of established and standardized products. Joel Dean, for instance, notes that ". . . under stabilized pure oligopoly, the company's demand curve is a miniature of the industry's demand function. . ."[3] In other words, under the mentioned conditions, a company may expect to command approximately the same market share year after year.

A more sophisticated forecast can be obtained if past share experience is not merely averaged but subjected to trend analysis. This procedure will catch any progressive change in the estimating firm's market share that may be caused by persistent inter-company differences in managerial efficiency, financial resources, etc. If there is no trend, the method will automatically lead to the same estimate as will projection of an average of past share values.

The mentioned procedures undoubtedly have some usefulness in estimating the domestic market shares of American producers that are untroubled by foreign competition, but they are rather inadequate in connection with international commodities, for they cannot take account of changes in competitive strength produced by alterations in trade controls or the economic development of the trading nations. The rigidity of the techniques is particularly disturbing in the case of differentiated oligopoly; for, under this market structure, even the market shares of companies selling domestic goods are rather unstable, being controlled by the vagaries of price and nonprice competition.

[3]Joel Dean, **Managerial Economics**, New York: Prentice-Hall, Inc., 1951, p. 153.

Use of Functional Relations. The noted difficulties can be partly overcome by relating share estimates to factors actually determining relative market participation. The disadvantage of such an approach resides in the various problems it poses—the choice of serviceable key factors and a suitable functional form, and, above all, the necessity to predict the selected key variables before the formula decided on can be used. Nevertheless, the method merits consideration as a possible answer to a difficult forecasting problem.

In the case of homogeneous oligopoly, all companies must charge the same price to stay in the market. In this situation, a firm's market share is determined by the relative supply pressure it puts on the market concerned. A company shipping twice as much to a given region as another may (**ceteris paribus**) expect to sell twice as much. Proportional shipments, again, depend (at least immediately) on a tacit understanding among the members of the industry, for, without this, stable competitive relations cannot be maintained, and a costly price war may break out. More ultimate determinants of a firm's market share are productive capacity and market access, and so forth. Within this framework of logical connections, the analyst must select a useful set of key factors. Knowledge of his industry and statistical analysis of historical experience are useful guideposts in this connection.

Under differentiated oligopoly, market shares are, as cited earlier, governed by price and nonprice competition. Under certain conditions, therefore, an analysis of a company's price differentials over the average price of its competitors may roughly indicate the market share the firm can expect to command at different price spreads.

A function of the type shown below might be fitted to historical price and sales data:

$M/D = a\ (p/\overline{p})^b$ or, translated into logarithmic form, $\log M/D = \log a + b \log p/\overline{p}$

M represents the available market for the estimating company, D total demand for the product in the country concerned, M/D the market share of the forecasting company (or division if the firm produces several brands), p the price of the brand at issue, and $\bar{p}$ the average price of other brands. b may be taken as an approximation of the price spread elasticity of demand. It reflects the average response of the estimating firm's market share to changes in its price spread. If the latter, for instance, increases by 5 percent, and b equals −2, one may expect a decrease in market share of 10 percent—provided that other share influences such as differences in promotional effort, quality, etc., remain the same.

The stated condition spells out the chief limitation of price differential analysis as a basis for share forecasting. Nonprice factors are left out of account. Where these are significant, price spread analysis is too narrow to be useful to the forecaster, and an even more elaborate procedure is indicated.

A second disadvantage of tying share forecasts to price comparisons lies in the fact that such an approach requires data which are often not readily available. The prices of rivals must be observed and recorded over an extensive period of time before meaningful statistical analysis can be undertaken.

Finally, there is the necessity of estimating future price spreads. The forecasting company's pricing plans or policies are, of course, known. What is a problem, however, is the prediction of $\bar{p}$ in the above formula, the price average of competing brands.

A Methodological Refinement—Progressive Share Analysis. The competitors which an American seller of international goods encounters at home are of two types—American and foreign—, and the rivals he confronts abroad may even be of three types—national, international, and American. The first category embraces firms able to compete only locally (e.g. Ecuadorean textile manufacturers in Ecuador); the second class of competitors is made up of enterprises located in exporting countries other than the U.S.; and the third group comprises rival American sellers. Each of these groups of rivals is affected differently by changes in the commercial policies and economic circumstances of the trading nations. For example, the Chrysler Corporation may gain a better competitive position over Ford in, say, the Ecuadorean market by means of intensified sales promotion. The Opel Company, on the other hand, may obtain an advantage not only as a result of more extensive advertising, etc., but also in consequence of a depreciation of the German mark, tariff discrimination in favor of German products, or the general comeback of the German economy.

In the noted circumstances, it will be analytically fruitful to give each competitive group separate attention. Thus, instead of determining the forecasting company's share in a given foreign market, the analyst first seeks to estimate the share available to all foreign sellers. This is then successively converted into the share available to American sellers as a whole and then the estimating firm's share. Alternatively, the analysis may be divided into only two phases—determination of the American share of the total market concerned and estimation of the forecasting company's participation in expected American exports to the region in question.

The "progressive" type of share analysis here outlined has a twofold advantage over the simpler procedure which relates the forecasting firm's or division's sales directly to total industry sales:

1. *More of the information residing in the available data is used.* The direct procedure lumps all factors affecting the estimating firm's market share together. There is no attempt to differentiate between competitive developments (changes in trade controls, for instance) affecting broad groups of sellers and ordinary intercompany competition such as sales

promotion, sales terms, etc. Progressive analysis separates these effects and thus yields a more sophisticated basis for forecasting.

2. *There is a choice of methods at each step of the analysis.* Thus, for instance, the competitive effects of changes in the commercial policies and/or economic situation of the various trading nations might be caught by an "American-share" function of the following type:

$$M_a/D = a \cdot \bar{p}_a/\bar{p}_f ,$$

where D is the total demand for the product at issue in the country under consideration, M_a the market available to American sellers, M_a/D the market share of American sellers, $\bar{p}_a$ the average price of U. S. members of the industry, and $\bar{p}_f$ the average price of foreign rivals.

The forecasting company's share of the available American sales opportunities in the nation concerned may then be estimated by projecting the previous year's share or the average share obtained in recent years. Or else a trend equation or an econometric expression of some type may be used, depending on the circumstances of the industry and the national market in question.

Market Conditions Unamenable to Share Forecasting. In certain situations, no theoretically sound share prediction can be made. A number of products are subject to frequent and radical changes in quality and style. The relevant brand preference patterns are thus constantly disrupted, and no meaningful functional relation can be fitted to historical experience. Nor is reliance on personal judgment or intuition likely to solve the problem. Share forecasting under conditions of preference instability can be little more than guessing.

A similar difficulty is presented by products which are still in an early phase of market development. In this case, consumer preference relations have not yet congealed into stable patterns, and there is little in past experience that may be taken as an indication of what is to come.

CONCLUDING OBSERVATIONS

Sales forecasting cannot be successfully pursued without a workable concept of economic causation. The analyst must be able to select from the numerous variables shaping social behavior the few which significantly determine the market at issue. To these, forecasts must be anchored. Partial knowledge of economic life based on personal experience may at times assure an adequate choice of such strategic factors, but often a more reliable guidepost is needed.

It is here that economic theory can aid the forecaster, for it can provide him with a widely accepted picture of economic reality. This representation is fragmentary, to be sure. It can be compared with a map showing only major landmarks and thus leaving the determination of a precise path toward any given goal to the user. It provides basic orientation, no more. But this is important. It means a material reduction in the number of uncertainties that plague the sales forecaster.

Mail and Telephone Order Buying in Greater Philadelphia

by KARL H. STEIN*

Mail order and telephone buying, although insignificant in total volume, represent an important segment of the market. This article details some of the results of a study of buying attitudes and practices of a representative sample of households in the Philadelphia area.

MAIL and telephone order buying represent less than one percent of the total dollar volume of retail sales.[1] Despite this fact, some department and specialty stores sell as much as nine percent of their total volume by these methods.[2] Although small in total, these methods of consumer purchasing are significant for a number of reasons. Originally, they were a means of bringing the benefits of an advancing urban standard to isolated rural populations. Now, mail order buying has become an important mass retailing channel, a form of self-service which competes with other retail methods, serving metropolitan and rural customers alike.

Current mail and telephone order buying and selling practices reflect some of the evolving trends in the retail marketing structure. These methods cater to a consumer in a hurry, a consumer whose hours of employment and distance from convenient and suitable retail facilities may leave him little time for store shopping. They also serve the consumer who is essentially home or family-centered and those with active leisure pursuits which leave little incentive or time for outside shopping. Finally, these techniques benefit the consumer who has an intuitive instinct for bargains or who is responsive to preferred brands and who has a better understanding of style and convenience elements in the products he selects.

From the seller's side, mail and telephone order purchasing also are significant. The retailer benefits through lower selling costs because less supervision is required; the average sales check is higher; there is increased merchandise turnover, while display investment is at a minimum; and, oddly enough, merchandise returns arising out of "on-approval" sales also are smaller than for the similar category of in-store selling. The result of this impetus has been preselling the consumer through more effective and more factual visual brand advertising, both by manufacturers and retailers, and there has been a greater use of mail and telephone order soliciting media. Finally, as volume increased and more accurate order handling techniques were developed, the physical volume of such sales has grown at a rate about equal to that for total retail sales.

Over the years, mail order buying has changed from a typically rural to an urban phenomenon. Today, over two-thirds of the total sales volume for these media come from nonrural areas. Thus, urban mail order and telephone buying deserve special study relative to other phenomena indicating change in the retail structure, such as, revival of the general store concept in scrambled merchandising, the renaissance of one-stop shopping in the shopping center movement, applications of automation in merchandise handling and accounting, and the introduction of services such as revolving consumer credit, varied shopping hours and large-scale parking facilities. This study of the Philadelphia market area consumers was conducted to discover the significance of changes in this area.

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[1] D. J. Duncan and C. F. Phillips, **Retailing**, Richard C. Irwin, Inc., Homewood, Ill., 1959, p. 21.

[2] **Women's Wear Daily**, July 30, 1958, p. 35.

In defining the limits of the study, mail and telephone order buying were combined because they were thought to have much in common. In both instances no face-to-face relationship exists between buyer and seller, except, perhaps, in the case of the catalog ordering office. Generally, the media used to stimulate buying in either method are the same, that is, catalogs, newspaper and magazine advertisements, direct mail pieces and telephone solicitation. The buyer has no sensory contact with the physical merchandise prior to his decision to order. Finally, the problems of merchandise returns and, to some extent, payment are similar in both mail and telephone order buying.

TECHNICAL PROCEDURES AND DESIGN

For the purposes of this study, the sample survey area was defined as that area covered by the Philadelphia Transportation Company **Street Map of Philadelphia and Vicinity, 1958.** A two-stage area sample was employed with an area selection factor of 1/30 based on appropriately selected grid squares within the survey area and a survey selection factor (ratio of number of interviews to total eligible respondent households) of 1/390 resulting in a respondent selection factor of one-third.

The basic unit of investigation was the household, including family members related by blood or marriage and living at the same address. Responses from the head of the household or his spouse were accepted as representing the buying activities of the entire family.

A questionnaire was designed to cover the topics under investigation. It was pretested and then revised. After testing, analysis and validating of preliminary results, interviewers were trained and sent into the field. The process was carefully supervised in all areas, and the results were finally validated in a subsample of cases. Interviews were scheduled and conducted with the sample of households originally selected. However, when the designated respondent was not at home, two call-backs were made before a preselected alternative household was substituted for the "not at home."

In total, 1,500 households were contacted. Of these, 41 (2.7 percent) refused to participate in the study; 82 gave inadequate or obviously invalid responses, and these were eliminated. There were, thus, 1,427 usable interviews. The data may be summarized as follows:

Number of Interviews scheduled	1,500	(1/390 households)
Refusals	41	(2.7 percent)
Invalid Returns (inadequate information)	32	
Usable Returns	1,427	

PURPOSE OF STUDY

The purposes of the study were:

1. To determine the relevant socio-economic, demographic criteria which could effectively differentiate those who buy by mail or telephone from those who do not use these media.[3]

2. To discover the reasons prompting mail and telephone ordering. In this case, answers were solicited only from those who had classified themselves as purchasers. However, both purchasers and nonpurchasers were asked to indicate their objections to buying by mail or telephone order;

3. To determine the frequency with which those who buy by mail or telephone order use these methods;

4. To obtain information concerning the bases or media which lead respondents to buy by mail or telephone order; and,

5. To determine the types of merchandise respondents purchase by mail or telephone.

[3]Mail and telephone order purchasers were defined as those respondents who stated that they or members of their family residing with them had used these methods of buying during the twelve months preceding Easter, 1959.

PROFILE OF MAIL AND TELEPHONE ORDER PURCHASERS

The following tabulations were prepared to determine the extent to which purchasers[4] can be differentiated from nonpurchasers by demographic variables. The variables employed, together with the reasons for their use, were as follows: (1) The quality of housing occupied and the occupation of the head of the household represent general indices of socio-economic status.[5] (2) Size of household is one index of purchasing needs and, to the extent that growing families make demands on the time of the homemaker, of purchasing opportunity. (3) The extent of gainful employment provides an index of level and potential individual market behavior. When the latter is combined with the occupation of the household head and the extent of gainful employment among household members, the result provides a clue to economic capacity based on the combined purchasing power of the household unit. (4) Home and car ownership, besides establishing yardsticks of economic status, also help to reveal requirements for purchasing appliances and automobile accessories. More specifically, multiple car ownership, beyond its economic implications, suggests the capacity to and scope of individual movement independent of available public transportation facilities.

Differentiation by Housing and Occupational Status

Fifty-four percent of the respondents to this survey classified themselves as purchasers in accordance with the study definition.[6] Table 1 indicates a positive relationship between the quality of housing occupied and the likelihood of purchasing by mail and telephone order, for 38 percent of respondents from blighted neighborhoods but over 60 percent of those from better neighborhoods indicated purchases by mail and telephone order.

The occupational tabulations reveal a similar relationship — the likelihood of being a purchaser increases with improved occupational status (Table 2). It is also evident that those employed in non-manual occupations purchase by mail or telephone order more frequently than those associated in the manual occupations. (Table 3).

A relatively high degree of correlation between the occupation of the household head and the quality of housing occupied is revealed in Table 4. By way of summary, the occupation of the head of the household and the quality of housing occupied are both indices of socio-economic status and both are positively associated with the use of mail and telephone order purchasing.

Household Size and Extent of Gainful Employment

Among respondents to this survey, those from smaller households (one or two members) are less apt to buy by mail and telephone order than those from larger households. (Table 5.) This suggests that care of larger families leaves less time for shopping trips and thus encourages mail and telephone order buying. The only apparent exception to this pattern appeared in three-or-more member households occupying higher quality housing, which more frequently reported no purchases. (Table 6.) This may result because more of these families have domestic help available, thus shopping time. Or, it may be that persons of high socio-economic levels tend to shop for taste and individuality.

Household size as indicator of the

[4] See footnote 3.

[5] Primary sampling units selected were post-stratified into four housing categories. Housing category I was defined as row houses in blighted neighborhoods; housing Category II, as poorly maintained detached or semi-detached homes and better maintained older row houses in partly commercially zoned areas; housing category III, newer row homes and well-maintained single homes and duplexes; and Category IV consisted of housing of higher quality than the other three, that is, single homes and modern duplexes in suburban settings. Apartment dwellings were classified in accordance with their relevance to each of the four categories.

[6] See footnote 3.

PHILADELPHIA AREA SAMPLE RESULTS: MAIL AND TELEPHONE ORDER PURCHASE STUDY

TABLE 1

PERCENTAGE OF MAIL AND TELEPHONE ORDER PURCHASERS, BY HOUSING CATEGORIES

Housing Category	Number	Percent
I	397	38
II	495	55
III	321	67
IV	214	61
Total	1,427	100

TABLE 2

PERCENTAGE OF MAIL AND TELEPHONE ORDER PURCHASERS, BY OCCUPATION OF HOUSEHOLD HEAD

Occupation	Number	Percent
Not Gainfully Employed	146	29
Manual	570	51
White Collar	382	62
Executive	146	63
Professional	131	60
Total	1,375	100.0

TABLE 3

PERCENTAGE OF MAIL AND TELEPHONE ORDER PURCHASERS AND NONPURCHASERS, BY OCCUPATION OF HOUSEHOLD HEAD

Occupation	Percent	
	Purchasers[1]	Nonpurchasers[2]
Not Gainfully Employed	6	16
Manual	39	44
White Collar	32	23
Executive	12	8
Professional	11	9
Total	100.0	100.0

1. Number = 745.
2. Number = 630.

TABLE 4

PERCENTAGE OF MAIL AND TELEPHONE ORDER PURCHASERS AND NONPURCHASERS, BY OCCUPATION OF HOUSEHOLD HEAD AND HOUSING CATEGORY

Occupation and Housing Category	Percent	
	Purchasers	Nonpurchasers
Housing Category I		
Not Gainfully Employed	7	19
Manual	64	58
White Collar	19	17
Executive	4	3
Professional	6	2
Total	100.0	100.0
Housing Category II		
Not Gainfully Employed	5	16
Manual	45	44
White Collar	37	31
Executive	8	6
Professional	6	5
Total	100.0	100.0

Table 4. -- continued

Occupation and Housing Category	Percent	
	Purchasers	Nonpurchasers
Housing Category III		
Not Gainfully Employed	5	19
Manual	33	40
White Collar	36	17
Executive	17	7
Professional	10	17
Total	100.0	100.0
Housing Category IV		
Not Gainfully Employed	6	5
Manual	10	11
White Collar	31	29
Executive	27	33
Professional	26	22
Total	100.0	100.0

TABLE 5

PERCENTAGE OF MAIL AND TELEPHONE ORDER PURCHASERS AND NONPURCHASERS, BY SIZE OF HOUSEHOLD[1]

Size of Household	Percent	
	Purchasers	Nonpurchasers
Total Number	772	645
Total Percent	100	100
None	3	7
1	19	24
2	25	25
3	27	23
4	16	14
5	6	4
6 and Over	4	2

1. Number of persons residing with household head.

TABLE 6

PERCENTAGE OF MAIL AND TELEPHONE ORDER PURCHASERS AND NONPURCHASERS, BY SIZE OF HOUSEHOLD AND HOUSING CATEGORY[1]

Housing Category and Size of Household	Percent	
	Purchasers	Nonpurchasers
Housing Category I		
None	4	9
1	17	21
2	17	25
3	23	19
4	23	16
5	9	5
6 and Over	8	4
Housing Category II		
None	4	5
1	15	22
2	25	30
3	29	25
4	16	14
5	7	4
6 and Over	5	4
Housing Category III		
None	1	9
1	21	39
2	32	23
3	30	20
4	12	6
5	3	2
6 and Over	1	2
Housing Category IV		
None	1	1
1	22	16
2	23	21
3	25	33
4	16	21
5	8	6
6 and Over	5	1

1. See Footnote 1 to Table 5.

likelihood of mail and telephone order purchasing tends to become less decisive among the higher paid occupations. (Tables 7 and 8.) For the broad mass market, therefore, household size appears to be a relevant predictor of the likelihood of mail and telephone order purchasing, although its validity de-

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TABLE 7

PERCENTAGE OF MAIL AND TELEPHONE PURCHASERS AND NONPURCHASERS, BY OCCUPATION OF HOUSEHOLD HEAD AND SIZE OF HOUSEHOLD [1]

Size of Household and Class	Occupation: Manual	White Collar	Executive	Professional	Not Employed
None					
Purchasers	--	39	6	6	44
Nonpurchasers	25	19	3	53	--
1					
Purchasers	30	33	7	13	16
Nonpurchasers	39	19	5	7	31
2					
Purchasers	33	35	17	12	3
Nonpurchasers	45	27	7	9	14
3					
Purchasers	41	34	14	10	2
Nonpurchasers	46	24	14	12	3
4					
Purchasers	51	28	13	8	1
Nonpurchasers	52	18	11	8	9
5					
Purchasers	48	30	8	12	2
Nonpurchasers	49	30	11	4	7
6					
Purchasers	69	9	12	9	--
Nonpurchasers	74	20	--	--	7

1.See Footnote 1 to Table 5.

TABLE 8

PERCENTAGE OF MAIL AND TELEPHONE ORDER PURCHASERS AND NONPURCHASERS, BY SIZE OF HOUSEHOLD AND OCCUPATION OF HEAD OF HOUSEHOLD [1]

Size of Household and Class	Occupation: Manual	White Collar	Executive	Professional	Not Employed
None					
Purchasers	--	3	1	1	19
Nonpurchasers	3	4	2	2	17
1					
Purchasers	14	19	11	26	51
Nonpurchasers	20	21	14	19	47
2					
Purchasers	22	27	33	31	14
Nonpurchasers	26	30	19	25	22
3					
Purchasers	28	29	31	29	9
Nonpurchasers	25	25	40	37	4
4					
Purchasers	21	14	16	14	2
Nonpurchasers	17	12	19	15	8
5					
Purchasers	8	6	4	9	2
Nonpurchasers	5	6	6	2	2
6					
Purchasers	8	1	4	4	2
Nonpurchasers	4	2	--	--	1

1.See Footnote 1 to Table 5.

TABLE 9

PERCENTAGE OF MAIL AND TELEPHONE PURCHASERS AND NONPURCHASERS, BY NUMBER GAINFULLY EMPLOYED

Class	Percent of Number Employed: None	1	2 or More	Number
Purchasers	1	69	30	712
Nonpurchasers	2	74	25	548

TABLE 10

PERCENTAGE OF MAIL AND TELEPHONE PURCHASERS AND NONPURCHASERS, BY NUMBER EMPLOYED AND BY HOUSING CATEGORY

Housing Category and Class	Percent of Number Employed: None	1	2 or More	Total	Number
Housing Category I					
Purchasers	3	60	38	100	139
Nonpurchasers	3	72	26	100	205
Housing Category II					
Purchasers	--	67	33	100	254
Nonpurchasers	1	71	26	100	189
Housing Category III					
Purchasers	--	67	33	100	199
Nonpurchasers	--	73	27	100	79
Housing Category IV					
Purchasers	--	84	16	100	120
Nonpurchasers	--	84	15	100	75

TABLE 11

PERCENTAGE OF MAIL AND TELEPHONE PURCHASERS OWNING HOMES, BY HOUSING CATEGORIES

Housing Category and Class	Number	Percent
All Purchasers	750	79
All Nonpurchasers	641	70
Housing Category I		
Purchasers	147	63
Nonpurchasers	239	59
Housing Category II		
Purchasers	263	76
Nonpurchasers	220	70
Housing Category III		
Purchasers	211	84
Nonpurchasers	102	78
Housing Category IV		
Purchasers	129	92
Nonpurchasers	80	90

TABLE 12

PERCENTAGE OF MAIL AND TELEPHONE PURCHASERS OWNING HOMES, BY OCCUPATION OF HOUSEHOLD HEAD

Occupation and Class	Number	Percent
Not Gainfully Employed		
Purchasers	43	84
Nonpurchasers	101	67
Manual		
Purchasers	282	72
Nonpurchasers	272	62

creases as socio-economic status increases.

The extent of gainful employment of household members among purchasers and nonpurchasers varies, as might be expected. Employment of additional household members tends to increase economic level or status, but at the same time it reduces the time available for shopping. Households with multiple employment are more likely to purchase by mail and telephone than those with

only one employed member. (Table 9.) However, the evidence of multiple employment within households decreases among those in the highest housing category. Thus, the value of this indicator for differentiating between purchasers and nonpurchasers decreases as socioeconomic status rises. (Table 10.) Household size and the extent of multiple employment seem to be positively associated with mail and telephone order buying except among the higher income groups.

Home and Car Ownership

Home ownership is more prevalent among purchasers than nonpurchasers and increases as the housing quality and occupational status improve. (Tables 11 and 12.) Home ownership seems to be a good index of economic status as well as of consumption needs, at least in certain directions, which makes this finding appear plausible.

Car ownership is also more prevalent among purchasers than nonpurchasers, except among those in the highest housing category. The difference in the extent of car ownership among purchasers and nonpurchasers diminishes as housing improves. (Table 13.) Absence of an automobile in the household, therefore, does not appear to increase the likelihood of mail and telephone order purchasing, except in the nonmanual occupations. (Table 14.) Car ownership appears to be one index of socioeconomic status, as well as of purchasing needs and opportunities, which differentiates better between purchasers and nonpurchasers among the lower income groups than among the higher.

Multiple car ownership in the household is more prevalent among those who purchase by mail and telephone order than among those who do not, except in the highest housing category and the better-paid occupations. (Tables 15 and 16.) Lack of personal transportation, therefore, does not appear to be a good indicator of buying by mail and telephone order.

FREQUENCY OF MAIL AND TELEPHONE ORDER PURCHASING

Since qualitative descriptions of frequencies of purchasing by mail or telephone order are apt to be vague, respondents were asked to place themselves in one of several definite frequency groupings. Responses are tabulated in Table 16. For most respondents, purchasing **regularly** meant more than twice a month, although some categorized buying every other month as regularly. Similarly, **frequent** purchasing meant once to twice a month. **Occasional** purchases for most respondents implied a purchase about every other month. **Rarely**, for the majority of respondents, meant two to six purchases during the twelve-month period.

Frequency of telephone and mail purchases was relatively uniform among occupational classifications, except that more of those not gainfully employed and/or those employed as manual workers, in comparison with other groups, placed themselves in the category of frequent purchasers. Those not gainfully employed and professional workers were also the highest percentage categories among those who reported that they purchased rarely by mail or telephone order. (Table 17.)

A large proportion of all respondents put themselves into the category of occasional purchasers; however, those in housing categories I and II did this to a greater extent than did those in the higher housing categories. Those in housing Category IV, for example, tended to place themselves in the **rare** category more frequently than did any of the others. (Table 18.)

Although the relationship between family size and stated frequency of purchasing is tenuous at best, Table 20 indicates the larger the family unit, the higher the frequency of purchases. Thus, while the **regularly** purchasing group is

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Table 12 -- continued

Occupation and Class	Number	Percent
White Collar		
Purchasers	230	78
Nonpurchasers	139	77
Executive		
Purchasers	92	92
Nonpurchasers	53	87
Professional		
Purchasers	78	87
Nonpurchasers	51	86

TABLE 13

PERCENTAGE OF MAIL AND TELEPHONE PURCHASERS OWNING CARS, BY HOUSING CATEGORIES

Housing Category and Class	Number	Percent
All Purchasers	753	78
All Nonpurchasers	647	68
Housing Category I		
Purchasers	147	61
Nonpurchasers	244	55
Housing Category II		
Purchasers	264	80
Nonpurchasers	221	72
Housing Category III		
Purchasers	214	81
Nonpurchasers	102	72
Housing Category IV		
Purchasers	128	91
Nonpurchasers	80	93

TABLE 14

PERCENTAGE OF MAIL AND TELEPHONE PURCHASERS AND NONPURCHASERS OWNING CARS, BY OCCUPATION OF HOUSEHOLD HEAD

Occupation and Class	Total Number	Percent Owners	Percent Nonowners
Not Gainfully Employed			
Purchasers	43	47	53
Nonpurchasers	102	28	72
Manual			
Purchasers	287	76	24
Nonpurchasers	274	68	33
White Collar			
Purchasers	229	80	20
Nonpurchasers	141	84	16
Executive			
Purchasers	92	95	5
Nonpurchasers	53	94	6
Professional			
Purchasers	77	87	13
Nonpurchasers	51	92	8

TABLE 15

PERCENTAGE OF MAIL AND TELEPHONE PURCHASERS AND NONPURCHASERS OWNING CARS, BY HOUSING CATEGORY

Housing Category and Class	Total Number	Percent Owning Cars 1	2 or More
All Purchasers	564	77	23
All Nonpurchasers	427	80	19
Housing Category I			
Purchasers	82	90	10
Nonpurchasers	126	94	8
Housing Category II			
Purchasers	205	82	18
Nonpurchasers	160	88	12
Housing Category III			
Purchasers	169	76	24
Nonpurchasers	69	81	18
Housing Category IV			
Purchasers	108	60	40
Nonpurchasers	72	38	62

TABLE 16

PERCENTAGE OF RESPONDENTS MAKING MAIL AND TELEPHONE PURCHASES IN 1958-1959, BY FREQUENCY OF SUCH PURCHASES

	Number	Number of Purchases Made 1	2-6	7-12	13-24	Over 24
Regularly	56	--	4	14	14	68
Frequently	146	--	8	31	42	20
Occasionally	319	1	55	34	8	2
Rarely	184	19	73	8	--	--

TABLE 17

OCCUPATIONS OF HEADS OF HOUSEHOLDS, BY FREQUENCY OF MAIL AND TELEPHONE ORDER PURCHASES

Occupation	Number	Percent by Frequency Regularly	Frequently	Occasionally	Rarely
Not Employed	42	5	26	36	33
Manual	286	4	22	47	27
White Collar	219	10	19	45	25
Executive	91	11	15	49	25
Professional	78	10	18	41	31

TABLE 18

PERCENTAGE OF RESPONDENTS REPORTING FREQUENCY OF MAIL AND TELEPHONE PURCHASES, BY HOUSING CATEGORY

	Number	Percent by Frequency Regularly	Frequently	Occasionally	Rarely
Housing Category I	145	6	24	46	24
Housing Category II	259	9	17	48	26
Housing Category III	213	10	23	41	26
Housing Category IV	129	4	16	43	38

comprised of 64 percent of families of four or more persons, the rarely purchasing group contains only 56 percent of families of this size. On the other hand, 54 percent is made up of family units of less than four in contrast with 37 percent of more than four in the case of regular purchasers.

REASONS FOR BUYING BY MAIL AND TELEPHONE ORDER

Table 19 indicates the reasons respondents cited for utilizing mail and telephone order purchasing. Table 21 distributes these reasons in generic classifications. Whereas traditional thinking connected

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TABLE 19

PERCENTAGE OF RESPONDENTS STATING REASONS FOR PURCHASING, BY MAIL AND TELEPHONE ORDER

	Reasons	Percent of Responses[1]
1.	Able to "shop at home"	22
2.	Difficult to leave home because of small children	9
3.	Difficult to leave home because of care of other family members	3
4.	Difficult to leave home because of personal incapacity	2
5.	Difficult to leave home for other reasons	--
6.	Too little time during shopping hours because of job	7
7.	Too little time during shopping hours because of location of job	1
8.	Other reasons connected with job	--
9.	Prefer leisurely selection of merchandise	8
10.	Don't like crowded stores	10
11.	Dislike sales talk	7
12.	Find prices lower than for store-bought merchandise	5
13.	No convenient stores nearby which offer desired merchandise	5
14.	Lack of personal transportation to suitable stores	4
15.	Lack of convenient public transportation to suitable stores	1
16.	Find I only buy what I need instead of picking up all kinds of "bargains" or nonessentials	9
17.	Other reasons	7

1.Number = 1755. This number exceeds sample size because of multiple responses.

TABLE 20

PERCENTAGE OF RESPONDENTS REPORTING FREQUENCY OF MAIL AND TELEPHONE ORDER PURCHASES, BY SIZE OF HOUSEHOLD

Residing	Percent of Frequency			
	Regularly	Frequently	Occasionally	Rarely
None	2	5	2	2
1	19	17	15	26
2	16	20	28	26
3	39	28	27	25
4	14	20	16	14
5	7	5	7	5
6 and Over	4	5	5	2
Total Number	57	148	335	206

TABLE 21

PERCENTAGE OF RESPONDENTS BY GENERIC CLASSIFICATION OF REASONS FOR PURCHASING, BY MAIL AND TELEPHONE ORDERS[1]

Generic Classification	Percent of Responses
Basic preference for buying by mail and telephone -- 1, 9, 12, 16	61
Job and family situation -- 2-8	22
Residential location and transportation 13-15	10
Other reasons[2] -- 17	7

1.Numerals refer to reasons given in Table 19.
2.Among other reasons cited were the following: Lack of time, convenience, enjoyment of ordering by mail and telephone, fast service, seeing some good items in the catalog, only place which carried the item, sales people are indifferent and not necessary to shop in person.

TABLE 22

PERCENTAGE OF RESPONDENTS BY GENERIC CLASSIFICATION OF REASONS FOR BUYING BY MAIL AND TELEPHONE, BY OCCUPATION OF HOUSEHOLD HEAD[1]

Generic Classification	Percent of Responses				
	Not Employed	Manual	White Collar	Executive	Professional
Basic Preference -- 1, 9-12, 16	59	63	65	63	63
Job and Family -- 2-8	24	25	21	20	18
Residential and Transportation -- 13-15	14	9	9	12	14
Other Reasons -- 17	6	5	5	5	6

1.Numbers refer to reasons given in Table 19.

TABLE 23

PERCENTAGE OF RESPONDENTS BY GENERIC CLASSIFICATION OF REASONS FOR BUYING, BY MAIL AND TELEPHONE ORDER, BY HOUSING CATEGORY[1]

Generic Classification	Percent of Housing Category			
	I	II	III	IV
Basic Preference -- 1, 9-12, 16	58	59	61	60
Job and Family -- 2-8	25	27	22	21
Residential & Transportation -- 13-15	14	8	12	13
Other Reasons -- 17	3	6	5	6

1.Numbers refer to reasons given in Table 19.

TABLE 24

PERCENTAGE OF RESPONDENTS BY GENERIC CLASSIFICATION OF REASONS FOR BUYING, BY MAIL AND TELEPHONE ORDER, BY SIZE OF HOUSEHOLD

Generic Classification	Percent of Responses						
	None	1	2	3	4	5	6 & Over
Basic Preference -- 1, 9-12, 16	57	60	70	66	61	47	56
Job and Family -- 2-8	24	23	14	15	26	32	34
Residential and Transportation -- 13-15	15	13	9	11	10	12	9
Other Reasons -- 17	3	4	7	8	3	9	1

1. Numbers refer to reasons given in Table 19.

TABLE 25

PERCENTAGE OF RESPONDENTS BY REASONS FOR BUYING, BY MAIL AND TELEPHONE ORDER, BY SEX OF RESPONDENT

Reasons	Female	Male
1. Able to "shop at home"	22	7
2. Difficult to leave home because of small children	10	7
3. Difficult to leave home because of care of other family members	3	2
4. Difficult to leave home because of personal incapacity	3	1
5. Difficult to leave home for other reasons	--	--
6. Too little time during shopping hours because of job	7	7
7. Too little time during shopping hours because of location of job	1	1
8. Other reasons connected with job	--	--
9. Prefer leisurely selection of merchandise	8	9

this buying method with geographic location, the responses indicate that this is not a major reason for mail and telephone order buying. The majority indicated simply that they preferred to shop in this manner.

Job and family apparently figure less importantly in buying by mail or tele-

Table 25 -- continued

Reasons	Female	Male
10. Don't like crowded stores	10	12
11. Dislike sales talk	7	8
12. Find prices lower than for store-bought merchandise	4	8
13. No convenient stores nearby which offer desired merchandise	4	7
14. Lack of personal transportation to suitable stores	5	3
15. Lack of convenient public transportation to suitable stores	1	1
16. Find I only buy what I need instead of picking up all kinds of "bargains" or nonessentials	10	8
17. Other reasons	5	7

TABLE 26

PERCENTAGE OF RESPONDENTS BY REASONS FOR NOT BUYING BY MAIL OR TELEPHONE ORDER, BY PURCHASERS AND NONPURCHASERS

Reasons	Percent of Respondents: Purchasers	Nonpurchasers
1. Delivery too slow	10	7
2. Inconvenient to return merchandise	12	9
3. Cannot really judge merchandise by illustration	23	21
4. Cannot try on or try out merchandise before buying	20	19
5. Chore of filling out and mailing order	4	6
6. Impersonal quality of 'phone order	2	4
7. Must pay cash	4	6
8. Quality of merchandise is lower than for store-bought merchandise	4	6
9. Cannot evaluate quality of merchandise against its price	15	15
10. Danger of shipping damage	6	5
11. Other reasons	1	3
Total number	1066	1594

TABLE 27

PERCENTAGE OF RESPONDENTS BY REASONS FOR NOT BUYING BY MAIL AND TELEPHONE ORDER, BY PURCHASERS AND NONPURCHASERS AND BY HOUSING CATEGORY

Reasons[1]	Housing Category I		Housing Category II		Housing Category III		Housing Category IV	
	Purchasers	Nonpurchasers	Purchasers	Nonpurchasers	Purchasers	Nonpurchasers	Purchasers	Nonpurchasers
1. Slow Delivery	9	7	11	6	6	8	12	6
2. Inconvenient Return	11	10	10	8	17	9	11	7
3. Cannot Judge	22	22	21	21	25	21	24	21
4. Cannot Try On	24	22	20	16	19	22	17	18
5. Chore of Filling Out	5	6	4	7	2	6	3	5
6. Impersonal Quality	3	2	1	5	2	3	2	5
7. Must Pay Cash	5	8	2	5	2	5	3	4
8. Lower Quality	5	5	4	8	3	3	1	2
9. Cannot Evaluate	11	14	15	15	16	19	19	15
10. Shipping Damage	4	4	6	5	7	4	6	10
11. Other Reasons	--	--	2	4	--	--	2	5
Total Number	157	486	414	702	287	192	208	204

1.Reasons are given in abbreviated form; for complete version refer to Table 25.

phone among the higher paid occupations than among those receiving lower pay. The opposite is the case with reasons connected with residential location relative to retail facilities and the availability of private or public transportation. In this case, however, the main difference in the relative importance of this group of reasons stems from the greater importance which was attributed to the lack of nearby stores offering the desired merchandise. (Table 22.)

Better housed respondents found occupational and family factors less significant as reasons for buying by mail and telephone than did those in the lower housing categories. On the other hand, residential and transportation factors were of about the same importance for residents in all housing categories. (Table 23.) A basic liking for mail and telephone order buying figured more importantly among households of two to five persons than among both smaller and larger households. The latter seemed to regard job and family reasons as more significant. (Table 24.)

Women mail and telephone purchasers cited care of family, personal incapacity, ability to shop at home, lack of personal transportation and not buying bargains with greater frequency than men. Men, on the other hand, stressed dislike of sales talks, crowded stores, lower prices

and absence of suitable stores nearby more frequently than did women. (Table 25.)

OBJECTIONS TO BUYING BY MAIL AND TELEPHONE ORDER

Compared with nonpurchasers, purchasers more frequently stressed slow delivery, inconvenience of returning merchandise, inability to judge or try out merchandise and danger of shipping damage as their major objections to off-premise buying. Nonbuyers, on the other hand, emphasized the chore of filling out and mailing the order, the impersonal quality of ordering by telephone, the lower quality of merchandise and the need to pay cash. For both groups, the reasons for not purchasing by mail and telephone order, in order of frequency were: inability to judge merchandise by illustration, inability to try on or try out merchandise before buying, inability to evaluate merchandise against its price, inconvenience of returning merchandise, slow delivery, danger of shipping damage, lower quality of merchandise, chore of filling out and mailing order, need to pay cash, impersonal quality of phone order, and other reasons. (Table 26.)

No consistent pattern of reasons emerges when the data are broken down by housing category. Among purchasers, those in the lowest housing category are somewhat more concerned with not being able to try on or try out the merchandise before buying than are those in the higher housing categories. On the other hand, the opposite holds true for judging quality of merchandise, for those in the higher housing groups cited this as a deterrent to off-premise buying. However, those in the higher housing categories do not feel that the quality of merchandise is lower than that of store-bought merchandise to the same extent as do those in the lower categories. (Table 27.)

SUMMARY AND CONCLUSIONS

The findings of this survey may be summarized as the following:

1. Higher paid and better housed consumers in metropolitan areas tend to rely on mail and telephone buying to a greater extent than consumers of lower socio-economic status.

2. Larger households and households in which more than one member is gainfully employed tend to make greater use of mail and telephone order buying than do small households and those with only one income recipient.

3. Absence of a car in the household does not promote mail and telephone order buying. On the contrary, car ownership and multiple car ownership are more prevalent among purchasing than among nonpurchasing households, especially those of middle and higher incomes.

4. Most purchasers regard themselves as occasional users of this method of buying, which means, for the majority, a purchase about every other month.

5. The majority of reasons for buying by mail and telephone are connected with a basic preference for this method, such as being able to shop at home and at lower prices, or a dislike of buying in crowded stores and the salestalk, rather than reasons associated with job, family, residential location or transportation.

6. Reasons for not buying by mail and telephone order are connected with the inability to judge the quality of merchandise before buying.

If these findings were confirmed in further studies on mail and telephone order buying in other metropolitan areas, merchandisers would be able either to cater more specifically to the market segment which now most frequently utilizes these methods of buying. A merchandiser might also be able to adapt his operations to attract underdeveloped segments of this same market. He might, for example, trade up to intensify

his appeal to the upper middle income groups and/or trade down to and extend more liberal credit terms to satisfy the needs of the mass market.

Again, if further studies were to show that reasons for buying by mail and telephone order connected with job, family residence or transportation are far outweighed by a basic preference for this method of buying, the potential for mail and telephone order could be greatly expanded by stressing its positive advantages over buying specific categories of products and services in retail stores. The emphasis on the consumer's inability to judge the quality of the merchandise prior to placing his order might give rise to further efforts to improve the media which promote mail and telephone order buying and to the use of more product information and consumer educational sales messages in the process.

Income Bonds As Financing Tools

by H. E. WHATLEY*

An analysis of the uses of income bonds, this article indicates a number of recently developed applications for these instruments and suggests the advantages of these uses.

INCOME bonds have been used traditionally as a debt adjustment tool in corporate reorganizations. Recently, however, they have been used also (1) as direct substitutes for outstanding preferred stock, (2) as new issues to obtain funds necessary to redeem or call an outstanding issue of preferred stock or other debt, (3) to obtain funds for expansion, and (4) as an expedient in effecting mergers or acquisitions. This paper summarizes the advantages of their uses and suggests the extent to which income bonds have been issued for these purposes. It also indicates certain characteristics of these instruments and their uses which were revealed by analysis.

USES AND ADVANTAGES OF INCOME BONDS

Until the 1950's, income bonds were used primarily in reorganization when the courts forced issuance of these bonds to junior mortgage bondholders in an effort to eliminate a portion of fixed interest obligations. Management seldom issued these securities voluntarily because investors held them in such low esteem and because excessively high interest rates were necessary to make them marketable. These factors led to a gradual transition from income bonds to preferred stock. However, as the corporate tax rate increased to 52 percent, use of the income bond as a medium of substitution for outstanding preferred stock gained new popularity. Indeed, in the 1950's, income bonds were used more and more frequently by solvent companies primarily to eliminate preferred stock.

Substitutes for Outstanding Preferred Stocks

The reason for this new interest in income bonds rests in the tax structure. Interest payable to income bondholders may be included as a business expense in the computation of taxable corporate income, while the dividends payable to the preferred stockholder must be paid from corporate earnings after the payment of taxes. Therefore, it is to the advantage of common stockholders to make such a substitution, since additional earnings so obtained will accrue to their benefit.

Where the payment of interest to the extent earned is mandatory and not based on a discretionary action by a board of directors, the Internal Revenue Service, in computing taxable income, considers such payment as an expense, handling it in the same manner as fixed interest charges. The effect of this ruling is to make the interest on a five percent income bond deductible from gross income as a business expense, whereas the dividends paid on five percent preferred stock are not.

An interesting exception is the case of the Class A and Class B debentures of the Green Bay and Western Railroad. These debentures were issued in 1896 following a reorganization of the company. The Internal Revenue Service ruled, however, that these constitute classes of debenture stock in that (1) they have no maturity and (2) interest (actually dividends per Internal Revenue Service) is payable to the extent earned but only upon the declaration (at its discretion) of the Board of Directors.

The first large issue of income bonds

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($22.5 million) by a solvent corporation as a substitute for its outstanding preferred stock was that of the Western Pacific Railroad in September 1954. The company offered a five percent 30-year income debenture together with one-sixth share of common stock for each $100 par value of outstanding preferred stock plus accrued dividends. The company estimated that tax savings of $8.3 million could be obtained over the life of the bond.

Similarly, the Chicago & Eastern Illinois Railroad in 1955 offered holders of its Class A stock 100-year five percent debentures in exchange for their preferred shares on the basis of $40 principal amount of debentures for one share of stock. The resulting interest payment is the same as the dividend rate of $2 ($40 par) payable each year on the Class A stock. The railroad estimated that tax savings from this exchange would amount to about $400,000 annually, or about $1 per share of stock.

The use of income bonds as a substitute for outstanding preferred stock has not been confined solely to the railroad companies. Other examples of this usage during the 1950's include: American Hide & Leather Company, 5%, 1975; Good Humor of California, 5%, 1975; General Cigar, 5½%, 1987; Hydraulic Press Brick, 5½%, 1977; and Kansas City Stock Yards, 5%, 1991.

Obtaining Funds to Redeem Outstanding Issues or Refund Outstanding Debt

The ability of corporations to substitute an issue of income bonds for an outstanding issue of preferred stock frequently depends on the willingness of the preferred stockholders to accept such an exchange. However, many issues of preferred stock are callable by management at a specified price per share.

It is to the company's advantage during a period of low interest rates to refund an outstanding issue of preferred stock with a lower interest rate bond, especially if the interest payments are tax deductible. Thus, when financially feasible, income bonds are sometimes offered to the general public and the proceeds from the sale used to call an outstanding issue of preferred stock for redemption. This procedure eliminates the problem of obtaining the consent of the preferred stockholders, as required when a direct exchange is planned.

This is not a rare technique. For example, the New York, Chicago and St. Louis Railroad in January 1955 sold a four and one half percent Income Debenture due in 1989 to obtain funds to redeem its six percent Series A preferred stock. Rated 'Ba' by Moody's, this bond was offered to the public at 100 7/8 and has paid interest regularly since its issuance. On December 31, 1959, $32.6 million was still outstanding and the 1957-59 price range for this issue was 79-93.

In March 1955 the Chicago, Rock Island and Pacific Railroad similarly marketed an issue of four and one half percent Income Debentures, valued at $62.5 million, for the purpose of retiring its preferred stock. This bond also carried a Moody rating of 'Ba'. It was offered to the public at 100. Its 1957-59 price range was 78-93 3/4, and it has paid interest regularly since issuance.

Among industrial companies, Armour and Company has been a rather consistent user of the income bond. In 1943 Armour of Delaware issued a seven percent income bond in direct exchange for an outstanding issue of seven percent preferred stock. As a result of a subsequent merger, these bonds were assumed by Armour of Illinois. Later, in 1947, the company was able to refund the seven percent income bond with a three and one half percent issue (also income bonds) by selling the latter issue to a group of insurance companies and calling the seven percent issue for redemption. More recently, in 1954, the company again resorted to the income bond as a substitution for an outstanding issue of preferred stock.

Source of Funds for Expansion

Although the income bond has not been used frequently to raise funds, there are certain advantages to its use for this purpose in lieu of preferred stock. One less obvious advantage is that it may attract institutional or additional institutional investors who may be limited by law to a particular amount of preferred stock holdings. These limitations are not imposed on bond investments.

Consequently, it has been possible for such financially strong companies as Corning Glass Works and Monsanto Chemical Company to sell entire issues of income bonds to institutional investors to obtain funds required to finance construction activities, equipment purchases, increase working capital or other corporate purposes. In 1951 Corning Glass Works sold a $10 million issue of three and three quarter percent income debentures, due in 2002, to an institutional investor for this purpose. In 1952 Monsanto Chemical Company sold a $66 million issue of three and three quarter percent income debentures directly to an institutional investor. Both companies utilized the funds received for expansion and other general corporate purposes.

A further advantage, in addition to those already noted, is the flexibility provided by the contingent interest nature of the income bond. This flexibility is desirable to an industrial company which, faced with cyclical fluctuations in earning power from time to time, may need to possess the power to postpone interest payments during an adverse period to avoid the possibility of bankruptcy. In this connection, recent issues of income bonds have been strengthened with such features as more clearly defined contingent interest clauses, cumulative and sinking fund provisions, convertibility, and security. For example, in December 1954 the American Steel Pump Corporation sold the public a $3 million issue of income bonds for the purpose of paying back taxes, acquiring certain capital equipment, and replenishing working capital. These bonds are fully cumulative to maturity (1994), have provision for a sinking fund (contingent on available earnings), and are secured by a first mortgage on all the properties of the company. There is no senior debt or preferred stock outstanding. Further, interest has been paid regularly since issuance, except during 1959 when only one percent was paid. However, the remaining three percent (four percent coupon rate) was paid on April 1, 1960, together with the four percent regularly due at that time. This issue has been given a 'B' rating by Moody's.

Instrument of Debt Adjustment in Reorganization

Income bonds continue to provide a means of offering existing bondholders an exchange into new debt instruments, thereby encouraging acceptance of a proposed plan of reorganization. At the same time acceptance of the income bonds reduces mandatory fixed charges that could cause financial difficulties. Robbins suggests that:

> "In the event that a future business depression introduces a new wave of defaults, it is probable that income bonds will be used extensively to help develop reorganization plans for companies in all fields of activity."[1]

EXPEDIENT IN EFFECTING MERGERS AND ACQUISITIONS

Often a difficulty in effecting mergers or acquisitions arises from the fact that one of the companies may have only nominal earnings or be operating at a deficit. Indeed, this condition might actually be one basis for management opinion underlying the proposal for merger. The acquiring company, on the other hand, may be of the opinion that certain management reforms and/or a new operating environment will produce substantial benefits. As in all mergers and acquisitions, the management of the acquiring company must attempt to effect the merger in such a way as to

[1] S. M. Robbins, "A Bigger Role for Income Bonds," **Harvard Business Review**, XXXIII, 1955, 107.

minimize any effect of dilution of the earnings of the other firm's stockholders. Yet, this management must offer to the owners of the company being acquired new securities (assuming that the acquisition is not for cash) which will improve their position without endangering the voting control of their own stockholders.

In this framework, the income bond offers a satisfactory solution. It permits the stockholders of the acquired company to occupy a creditor position in the new company; it does not build up fixed charges that could cause financial embarrassment during the period of integration of the operations of the two companies, i.e., before any earnings gains can accrue as the result of the merger; and it creates no problems of financial control.

Many variations can be introduced. For example, the bonds can be made convertible into the stock of the acquiring company to give the bondholders an opportunity to share in the anticipated growth of the combined enterprise; they may also be issued with warrants (w.w.) which entitle the bondholders to purchase stock in the acquiring company at a specified price.

Other variations may include the addition of a cumulative clause, the establishment of a sinking fund and the pledging of security.

Gerstenberg states:

> "If this bond is issued in exchange for common stock, it prevents dilution of voting control of the acquiring company. If it is issued in exchange for preferred stock or bonds, it prevents undue financial burdens that might cause trouble during the period immediately following the merger."[2]

The income bond played a major role in the merger which created Republic Pictures Corporation. Originally this enterprise was a wholly owned subsidary of Setay Company, Inc., an investment and finance company. Setay Company was owned by Consolidated Film Industries, Inc. Under the plan of merger from which the Republic Pictures Corporation emerged on June 30, 1945, each share of Consolidated Film Industries no par preferred together with dividend arrears was exchanged for $13 of Cumulative Income Debenture (four percent) plus one share of new $1 cumulative $10 par preferred and two new common shares. Each share of $1 par common stock of Consolidated Film Industries was exchanged for 3/4 shares of new common. Each share of Setay common was exchanged for 6½ new common shares. The result was the creation of of $5 million issue of income debentures, essentially as an expedient in effecting a merger.

NATURE AND EXTENT OF INCOME BONDS

Eighty-nine issues of income bonds outstanding as of December 31, 1959, were examined and tabulated to ascertain their characteristics with respect to the purposes and advantages examined above. The results are presented in Table I.[3]

The use of the income bond in corporate reorganizations appears most frequently among the railroad and real estate company users. Some 74 percent of the railroad issues and 70 percent of the real estate issues are the result of reorganizations compared with only 12 percent of the issues of industrial companies.

On the other hand, 50 percent of the industrial companies which issued income bonds utilized them principally in exchange for outstanding preferred stock. This usage is followed by: (1) source of funds for expansion (17 percent of issues) and (2) to effect corpor-

[2]C. W. Gerstenberg, **Financial Organization and Management of Business** (4th ed. rev.). New York: Prentice-Hall, Inc., 1959, p. 138.

[3]These data were compiled from sources such as **Standard & Poor's Guide** and **Moody's Investor Services Manuals for Industrial Companies, Transportation Companies and Real Estate Bank and Finance Companies.** While it is acknowledged that other income bond issues may exist, the writer believes that this statistical analysis encompasses substantially all issues currently under review by the investment community.

TABLE 1

SUMMARY COMPARISON OF 89 OUTSTANDING INCOME BOND ISSUES, BY TYPE OF COMPANY AND PURPOSE OF ISSUE

Purpose Code[1]	Railroad Companies Number	Railroad Companies % of Total	Industrial Companies Number	Industrial Companies % of Total	Real Estate Companies Number	Real Estate Companies % of Total	Total Number	Total % of Total
I	10	18	12	50	1	10	23	26
II	2	4	1	4	--	---	3	4
III	--	----	4	17	2	20	6	7
IV	41	74	3	12	7	70	51	56
V	2	4	4	17	--	----	6	7
Total	55	100.0	24	100.0	10	100.0	89	100.0

Source: These data were compiled from sources, such as, Standard & Poor's Guide and Moody's Investor Services Manuals for Industrial Companies, Transportation Companies and Real Estate Bank and Finance Companies. While it is acknowledged that other income bond issues may exist, the writer believes that this statistical analysis encompasses substantially all issues currently under review by the investment community.

1. The purpose code is as follows:
Purpose Code I -- Issued as a direct substitute for outstanding preferred stock.
Purpose Code II -- Offered publicly or privately to obtain funds necessary to redeem an outstanding issue of preferred stock or redeem other outstanding debt.
Purpose Code III -- Offered publicly or privately to obtain funds for expansion.
Purpose Code IV -- Issued in connection with a corporate reorganization as a result of bankruptcy.
Purpose Code V -- Issued in connection with a merger or acquisition.

ate mergers or acquisitions (17 percent of issues).

Two real estate company issues (20 percent) were placed to obtain funds for expansion. No railroad company presently has outstanding a bond issue which was issued for this purpose. The use of the bond in exchange for an outstanding issue of preferred stock is the second largest usage by the railroad companies (18 percent of issues).

Tabulation of the number of issues by amount outstanding reveals that 77 percent of the major income bonds were issued by railroads, the balance being accounted for by industrial companies, 20 percent, and real estate companies, 3 percent.

Twenty-seven of the 89 issues (30 percent) were not given a Moody's rating. Of these, ten were real estate issues; twelve, industrial issues; and five, railroad issues. Of those issues that were rated, 25 had a 'B' rating. Ten of these were industrial issues (42 percent of total industrial issues). The 15 remaining issues which were rated were railroads.

Most of the issues contained provision for the orderly retirement of the principal through the operation of a sinking fund. The inclusion of a cumulative interest feature was present in 70 of the 89 issues. Of these, the interest on 34 issues was partially cumulative. Almost all of the partially cumulative issues were accounted for by railroad companies. The majority of the industrial issues (75 percent) were fully cumulative as to interest. It appears that about one-half of the railroad and real estate issues also were secured by mortgages. This was not the case with industrial issues, 20 of the 24 issues were unsecured. In 1959, full interest payments were made on 73 of the 89 issues, partial payments were made on four, and the interest was omitted on 12.

Twice as many of the publicly traded issues[4] were traded "flat", as opposed to "plus" interest. Many of these bonds trade "flat" because of the uncertainty connected with the interest payments. The ratio of issues traded "flat" to "plus interest" for railroad companies is 3-to-1, while this ratio is 4-to-5 for industrial companies and 2½-to-1 for real estate companies. The method of trading (i.e. "flat" or "plus interest") appears to correlate with frequency of interest payment.

While about twice as many of the railroad issues had coupon rates, between four percent and five percent as between five percent and six percent, the pattern was reversed for the industrial companies. None of the real estate issues had a coupon rate between four percent and five percent, but two of these issues had coupon rates of less than three percent.

Only six of the 89 issues had coupon rates greater than six percent. However, in 1959, 41 of the issues had mean market yields greater than six percent. Indeed, 13 of the issues had mean market yields in excess of eight percent and four issues had mean market yields in excess of ten percent. On the other hand, three of the real estate issues had mean market yields of less than three percent. It appears, in general, that the mean market yields on the industrial issues were closer to the stated coupon rates than were those of the railroad issues.

[4]All issues privately held were accounted for by industrial companies.

CONCLUDING OBSERVATIONS

Recent usage of the income bond may, perhaps, be traced to two significant developments. In the first place, the corporate federal income tax has risen over the years to a level of 52 percent of taxable income and, under present tax law, payments for interest (including contingent interest payments which are mandatory if earned) are deductible in determining taxable income. Second, a broad and far-reaching transition has taken place, not only in the technology of accounting but also in government regulatory bodies, trade associations, and business ethics in general. For example, the Interstate Commerce Commission has established a uniform system of accounts for public carriers; similar regulations are present with regard to public utilities. The Securities and Exchange Commission, as well as the stock exchanges, has been instrumental in obtaining increasing disclosure of financial data. Further, an increasing number of corporate stockholders has tended to create an era of corporate citizenship, i.e., companies have an increased awareness of the impact of their actions upon public opinion.

However, it must be concluded that the income bond has not yet gained enough recognition in the financial-investment community to enable a company (with rare exception) to utilize this instrument as cheaply as a mortgage bond with a fixed or mandatory interest requirement. In several of the currently outstanding issues, special features such as earnings specifically defined to include cash flow from depreciation and other non-cash charges are present and appear to have been necessary to enhance the investment desirability of the particular issue.

On the other hand, the bond may be favorably compared with a preferred stock in view of the tax treatment regarding the interest. That is, corporate management must first make the decision that a security to be issued will contain a provision indicating that returns to the investor will be based upon available earnings. Within this framework the income bond becomes an alternative for preferred stock. In this regard, the income bond may prove even more economical than preferred stock as a result of the current tax treatment of interest. The issuance of a seven percent income bond (assuming this rate may be necessary to obtain 100 percent of par) results in an effective rate to the insurer of less than three and one half percent after taxes.

The conclusion that the income bond has not yet gained desirable recognition by the financial investment community does not preclude it from performing a necessary function in current corporate finance. Recognition of the weaknesses inherent in the early issues has brought not only more sophisticated applications of this bond by corporations, but it also has led to the development of a more clearly constructed instrument. Greater efforts are now made to provide a clearly defined basis for establishing a uniform and consistent computation of net earnings which are to be available for the payment of interest.

It appears that the income bond has found its niche as the "middleground" security, functioning primarily as the equivalent of preferred stock. However, the bond is still largely unfamiliar to many investors. Although many of the current issues of industrial companies have rather favorable records to date, if this security is ever fully to overcome its reputation as "one of the weakest forms of security issued by the corporation," these records must not only be maintained but improved. The investment quality and standing of the currently outstanding issues may weigh heavily in determining the role this security will play in corporate finance tomorrow.

Comments from the Dean . . .

Research in Business Administration

It has long been recognized that the responsibilities of a university include the development of knowledge, the accumulation of knowledge and the dissemination of knowledge. These three aspects, that of research, of preservation, and of teaching, all have a place in the university.

In thinking of the place of research in a University School of Business Administration, one becomes aware of a future that should be exceptionally productive. These great expectations rest on the recent development of tools of analysis, both theoretical and mechanical.

The theoretical tools come from mathematical analysis and from those which derive from the behavioral sciences. In the development of econometrics, operations research, linear programming, input-output analysis and game theory, mathematical processes such as probability, linear algebra and other analytical techniques have been used to provide quantitative information on relationships which are so complex as to be impossible of resolution without these tools.

The areas of managerial decision-making involve uncertainties, i.e., profit uncertainty, demand uncertainty, production uncertainty, cost uncertainty, price uncertainty, political-economic uncertainty and capital uncertainty. Management must therefore make predictions of future outcomes. These predictions must be formulated quantitatively if they are to have practical significance. The probability that revenues, costs and profits will be such and such depends upon estimates of the correlation of forces affecting prices and costs. Stated in these terms, mathematical models become necessary and the development of relevant facts becomes essential.

With the development of the mathematical tools to state quantitatively these problems, there has been a parallel development in machines capable of making vast calculations quickly. Many of these calculations could not be made were it not for the existance of these high speed computers.

Recent developments in psychology, sociology and anthropology are of such nature that new behavioral concepts should also help resolve many problems found in the area of the business economy. Some of these recent social science concepts which may prove pertinent to business enterprise are family and economic enterprise, role and status, frustration and aggression, and others.

Many of these social relationships may be expressed in terms of mathematical models. With the development of appropriate data, solutions may be found which hitherto were only guessed at when qualitative approches alone were available.

Availability of these more precise tools and demonstrated success in their application promise substantial development in clarifying basic aspects of the business economy as the result of research in the immediate future. Much of this research will be carried on outside the university framework, although the university has advantages of objectivity, training, and equipment which can provide an environment for important contributions.

Philadelphia Business Index

The September 1950 issue of the Bulletin presented a new index of general business conditions in the City of Philadelphia. This series, prepared and since maintained by Robert T. Kline, was designed to reflect economic activity exclusively within the boundaries of the City of Philadelphia. It was originally based upon a combination of statistical data representing (1) industrial electric power sales; (2) indexes of employment and employee-hours; (3) department store sales; (4) bank debits; and (5) total construction. Because the method of reporting certain data is under revision by the originating agencies, the change in average weekly hours worked and the monthly change in total employment in the Philadelphia metropolitan area, both prepared by the Department of Research of the Federal Reserve Bank of Philadelphia, have been substituted for (2) above. This is a temporary expedient to maintain continuity of the index. The original data series will be restored after revision.

The following table presents the index for the years 1939 through 1960, and by month from September, 1960.[1]

Index of General Business Conditions, City of Philadelphia, 1947 = 100

Year	Index	Month	Index
1939	73	1960	
1940	77	Sept.	142.5
1941	96	Oct.	140.3
1942	99	Nov.	137.6
1943	106	Dec.	128.7
1944	106		
1945	98	1961[1]	
1946	100		
1947	100	Jan.	133.9
1948	103	Feb.	138.0
1949	97	Mar.	135.1
1950	108	Apr.	141.0
1951	111	May	142.8
1952	111	June	143.2
1953	119	July	147.1
1954	119	Aug.	148.2p
1955	124	Sept.	148.5e
1956	128		
1957	130		
1958	128		
1959	138		
1960	139		

p = preliminary

e = estimated. Based on currently published weekly indicators.

[1]New indices of seasonal variation have been computed for industrial electric power sales and bank debits.

[1]Kline, Robert T., "A Measurement of General Business Conditions in the City of Philadelphia." **Economics and Business Bulletin,** Temple University School of Business and Public Administration, Philadelphia, Pa., September, 1959, pp. 33-40.